What is claimed is:

1. A substrate coating comprising a high surface area material and at least one metal ion adsorbed onto the high surface area material, durably coated onto a surface of a substrate.

2. The substrate coating of claim 1, wherein at least one of the high surface area material and the metal ion is capable of binding at least one compound selected from the group consisting of gaseous compounds, odorous compound, and combinations thereof.

3. The substrate coating of claim 1, wherein the high surface area material comprises a surface area of at least about 50 square meters/gram.

4. The substrate coating of claim 3, wherein the high surface area material comprises a surface area of at least about 100 square meters/gram.

5. The substrate coating of claim 1 wherein said substrate is used in an item selected from the group consisting of odor removing wipes, protective barrier clothing, air filters, printing substrates, face masks, storage and garbage bags, refrigerator liners, auto headliners, dryer sheets, and deodorizing T-shirts.

6. The substrate coating of claim 1, wherein the high surface area material comprises a nanoparticle.

7. The substrate coating of claim 6, wherein the nanoparticle comprises a diameter of less than 500 nanometers.

8. The substrate coating of claim 6, wherein the nanoparticle comprises a compound selected from the group consisting of silica, alumina, magnesium oxide, titanium dioxide, iron oxide, gold, zinc oxide, copper oxide, and combinations thereof.

9. The substrate coating of claim 1, wherein the at least one metal ion comprises an ion selected from the group consisting of copper ion, silver ion, gold ion, permanganate ion, chlorite ion, persulfate ion, iron ion, and combinations thereof.

10. A durably coated fabric comprising a fibrous substrate, a binder, and charged nanoparticles.

11. The fabric of claim 10 wherein said fibrous substrate comprises polyolefin fibers.

12. The fabric of claim 11, wherein the charged nanoparticles comprise nanoparticles selected from the group consisting of silica, alumina, titanium dioxide, gold, zinc oxide, and combinations thereof.

13. The fabric of claim 12 wherein said nanoparticles are distributed on the surface of said fabric.

14. The fabric of claim 13, wherein the nanoparticle comprises a negative first Zeta Potential of about -1 to -50 millivolts.

15. The fabric of claim 14, wherein the nanoparticle comprises a negative first Zeta Potential of about -1 to -20 millivolts.

16. The fabric of claim 14, further comprising a second higher Zeta Potential after adsorption of the at least one metal ion onto the nanoparticle.

17. The fabric of claim 13, wherein the nanoparticle comprises a diameter of less than 500 nanometers.

18. The fabric of claim 13, wherein the film comprises a nanoparticle selected from the group consisting of silica, titanium dioxide, gold, zinc oxide and combinations thereof.

19. The fabric of claim 10 wherein said binder is present in an amount between 0.1 and 5 weight percent .

20. A fabric comprising fibers and sequentially deposited positively charged nanoparticles and negatively charged nanoparticles.

21. The fabric of claim 20 wherein said fabric is made according to a process selected from the group consisting of coforming, airlaying, and bonding and carding.

22. The fabric of claim 20 further comprising a binder in the amount of between 0.1 and 5 weight percent.

23. The fabric of claim 21 further comprising a layer of breathable film.

24. A substrate comprising a nanoparticle coating that has been durably attached to said substrate by ultrasonic energy.

25. The substrate of claim 24 wherein said substrate is a polymeric fabric made by a process selected from the group consisting of spunbonding and meltblowing.

26. The substrate of claim 24 further comprising a binder in the amount of between about 0.1 and 5 weight percent.

27. A cellulosic fabric comprising nanoparticles wherein said nanoparticles have been added to said fabric in a wet-end addition.

28. The fabric of claim 26 further comprising a binder in the amount of between about 0.1 and 5 weight percent.

29. A personal care product comprising a substrate having a durable coating of at least one type of nanoparticle.

30. The personal care product of claim 29 wherein said substrate is a cellulosic absorbent structure.

31. The product of claim 30 further comprising a second type of nanoparticle, sequentially deposited.

32. The product of claim 30 wherein said substrate is a polymer liner or outer cover.

33. Clothing to protect against chemical warfare agents, said clothing comprising a durable coating of nanoparticles.

34. A material for packaging and storing fruit to inhibit ripening by removing ethylene gas, comprising permanganate ion modified alumina nanoparticles which are added to a cellulosic substrate and further comprising a binder to adhere the nanoparticles to said substrate.

35. A method of making a durably treated odor absorbing fabric, comprising the steps of mixing high surface area particles with a binder to produce a solution, saturating said fabric in said solution, removing said fabric and drying said fabric.

36. A method of making a durably treated odor absorbing fabric, comprising the steps of dipping said fabric in an aqueous mixture of high surface area particles, drying said fabric, dipping said fabric in a binder solution, and drying said fabric.

37. A method of making a durably treated odor absorbing fabric, comprising the steps of dipping said fabric in an aqueous first mixture of high surface area particles, drying said fabric, dipping said fabric in second mixture of high surface area particles, and drying said fabric.

38. A method of making a durably treated odor absorbing substrate, comprising the steps of dipping said substrate in an aqueous mixture of high surface area particles while simultaneously exposing said substrate to ultrasonic energy.